

## SPATIAL FILTER FOR SAMPLE INSPECTION SYSTEM

## ABSTRACT OF THE DISCLOSURE

Spatial filtering is disclosed that improves the signal to noise ration of a sample inspection  
5 system of the type having a detector and collection optics that receive radiation scattered  
from a point on a sample surface and direct the scattered radiation toward the detector. The  
spatial filtering may screen the detector from substantially all of the forward-scattered  
radiation from back-scattered radiation that is scattered in a at an elevation angle less than  
about 45° with respect to a normal to the surface. Forward scattered noise is screened from  
10 the detector while backscattered signal reaches the detector. Programmable spatial filters  
may be used to selectively block scattered noise due to surface roughness while transmitting  
scattered signal due to surface defects.